

AMENDMENTS TO CLAIMS

This listing of claims will replace all prior version, and listings, of claims in the application:

Listing of Claims

Claims 1-7 (canceled)

Claim 8 (currently amended): The apparatus of claim 7 wherein: An apparatus for generating precision clock information, comprising:

a source of power line timing information;

a source of externally-generated precision time information;

a timing circuit coupled to the source of externally-generated precision time information to receive a precision time signal therefrom, the timing circuit operable to generate clock information based on the precision time signal, the timing circuit further operable to generate clock information based on the power line timing information, the timing circuit further comprises comprising an accumulator, the accumulator including a
an output, a first input, a second input, and a third input;

a source of clocking signals operable to generate a clocking signal having a frequency exceeding a frequency of the precision time signal, and wherein the timing circuit is further operable to generate the clock information based on the clocking signal;
and,

wherein the accumulator increments a value stored therein based on the second input and the third input;

the accumulator is operable to receive a precision time pulse at the first input;

the accumulator is operable to generate a timing output signal at the output when the value exceeds a predetermined threshold; and

the accumulator is operable to generate a timing output signal at the output when the accumulator receives the precision time pulse.

Claims 9-16 (canceled)

Claim 17 (currently amended): An electricity meter operable to ~~perform obtain~~ data related to energy consumption, the meter comprising;

a sensor circuit operable to generate voltage and current measurement signals;

a measurement circuit operable to generate energy consumption data from the voltage and current measurement signals;

a source of power line timing information;

a source of externally-generated precision time information;

a timing circuit coupled to the source of externally-generated precision time information to receive a precision time signal therefrom, the timing circuit operable to generate clock information based on the precision time signal, the timing circuit further operable to generate clock information based on the power line timing information;

a memory operable to store at least some energy consumption data and a time record associated therewith, the time record generated in part using the clock information.

Claim 18 (original): The apparatus of claim 17 wherein the timing circuit is operable to generate clock information based on the precision time signal when the power line timing information is unavailable.

Claim 19 (original): The apparatus of claim 17 wherein the timing circuit is operable to generate clock information based on the power line timing information when the precision time signal is unavailable.

Claim 20 (original): The apparatus of claim 17 wherein the power line timing information includes a pulse signal derived from a power line signal.

Claim 21 (original): The apparatus of claim 20 further comprising a delay coupled between the source of power line timing information and the timing circuit, the delay operable to synchronize the pulse signal with the precision time signal.

Claim 22 (currently amended): The apparatus of claim 17 further comprising a source of clocking signals operable to generate a clocking signal have a frequency exceeding a frequency of the precision time signal, and wherein the timing circuit is further operable to generate the clock information based on the clocking signal.

Claim 23 (new): The apparatus of claim 18 wherein the timing circuit is operable to generate clock information based on the power line timing information when the precision time signal is unavailable.

Claim 24 (new): The apparatus of claim 18 wherein the power line timing information includes a pulse signal derived from a power line signal.

Claim 25 (new): The apparatus of claim 24 further comprising a delay coupled between the source of power line timing information and the timing circuit, the delay operable to synchronize the pulse signal with the precision time signal.

Claim 26 (new): The apparatus of claim 18 further comprising a source of clocking signals operable to generate a clocking signal have a frequency exceeding a frequency of the precision time signal, and wherein the timing circuit is further operable to generate the clock information based on the clocking signal.

Claim 27 (new): The apparatus of claim 19 wherein the power line timing information includes a pulse signal derived from a power line signal.

Claim 28 (new): The apparatus of claim 27 further comprising a delay coupled between the source of power line timing information and the timing circuit, the delay operable to synchronize the pulse signal with the precision time signal.

Claim 29 (new): The apparatus of claim 19 further comprising a source of clocking signals operable to generate a clocking signal have a frequency exceeding a frequency of the precision time signal, and wherein the timing circuit is further operable to generate the clock information based on the clocking signal.

Claim 30 (new): The apparatus of claim 20 further comprising a source of clocking signals operable to generate a clocking signal have a frequency exceeding a frequency of the precision time signal, and wherein the timing circuit is further operable to generate the clock information based on the clocking signal.

Claim 31 (new): The apparatus of claim 30 further comprising a delay coupled between the source of power line timing information and the timing circuit, the delay operable to synchronize the pulse signal with the precision time signal.

Claim 32 (new): The apparatus of claim 22 wherein the power line timing information includes a pulse signal derived from a power line signal.

Claim 33 (new): The apparatus of claim 32 further comprising a delay coupled between the source of power line timing information and the timing circuit, the delay operable to synchronize the pulse signal with the precision time signal.

Claim 34 (new): The apparatus of claim 24 further comprising a source of clocking signals operable to generate a clocking signal have a frequency exceeding a frequency of the precision time signal, and wherein the timing circuit is further operable to generate the clock information based on the clocking signal.

Claim 35 (new): The apparatus of claim 25 further comprising a source of clocking signals operable to generate a clocking signal have a frequency exceeding a frequency of the precision time signal, and wherein the timing circuit is further operable to generate the clock information based on the clocking signal.